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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/725,025	Applicant(s) SEDDIGH ET AL.	
	Examiner David S. Kim	Art Unit 2613	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 28 July 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: *none*.
   Claim(s) objected to: *none*.
   Claim(s) rejected: *1-5,7-10,13-20 and 22-29*.
   Claim(s) withdrawn from consideration: *none*.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER

Continuation of 11. does NOT place the application in condition for allowance because:

Applicant's arguments, filed on 28 July 2007, have been been fully considered but are not persuasive. Applicant presents a variety of points throughout Applicant's response of 28 July 2007.

Regarding "The Present Application", Applicant states:

"In a sharp contrast, the Rajagopal system relies on electrical-domain processing and uses IP-based utilities for traffic monitoring. A person skilled in the art would have no reason whatsoever to combine the Heismann system and the Rajagopal system simply because using the Rajagopal system requires optical-to-electrical conversion, and vice versa, contrary to the teaching of Heismann. If such conversion is done, then there is no point in using the low-frequency tone identifiers (signature) to monitor the light paths since - if one invests in the conversion to the electrical domain • all monitoring data are readily available and the optical-domain solution would be superfluous. The main reason for using the signature system within an all-optical network is to avoid the excessive cost of optical-electrical-optical conversion and the main objective of the claimed system of the present application is to realize optical-domain control while circumventing the limitations of optical-domain processing" (REMARKS/ARGUMENTS, p. 12, 1st paragraph).

Examiner respectfully notes that the standing rejections do not rely on every specific detail of Rajagopal, to the level of detail of electrical-domain processing and IP-based utilities. Although Rajagopal provides detailed examples, such as IP-based utilities, such examples merely illustrate the core focus of the teachings of "multi-path analysis for managing machine communications in a network" (Rajagopal, col. 1, l. 7-10). The broad scope of these teachings are emphasized by statements such as the following: "The method for identifying the current paths in block 200 may include many techniques and many variations" (Rajagopal, col. 4, l. 29-30). Also, note that the figures that display the processes (Figs. 2 and 5A-5E) do not rely on aspects specific to eletrical-domain processing and IP. The broad scope of the teachings of Rajagopal applies to communication networks in general. Accordingly, these teachings would also be desirable in optical communication networks. Accordingly, this point is not persuasive.

Regarding "Light paths in the Rajagopal Network", Applicant states:

"In a network comprising nodes of fine-granularity, such as routers or conventional circuit switches, each node connects to at least one neighboring node through a light path. A light path from a source optical node to a destination optical node may traverse an intermediate optical node. In the network considered by Rajagopal (FIG. 4), any two neighboring routers from among the illustrated routers E, F, G, H, I, J, K, L, M, N, and O, may be connected by a light path if network 420 uses optical transmission. A path from TMN 6 to TMN 8 through network 420 traverses routers M, N, and O. A path from router M to router N, for example, may be a light path traversing two or more optical nodes which are not illustrated in FIG. 4. Thus, the entire end-to-end path from TMN 6 to TMN 8 may comprise four independent optical paths separated by electronic nodes. Thus, the all-optical network of Heismann, or the optical communication network of the present invention, actually serves as an independent infrastructure • taken for granted • of an IP-network. Thus, the present system and the system of Rajagopal function separately and cannot be combined in a single entity" (REMARKS/ARGUMENTS, p. 12-13, bridging paragraph).

Similar to above, Examiner respectfully notes that the standing rejections do not rely on every specific detail of Rajagopal, to the level of detail of routers, electronic nodes, unshown optical nodes, and IP networks. Rather, the standing rejections realize that Heismann provides path ("end-to-end" signal tracking) information (Heismann, p. 3.47, INTRODUCTION) and that Rajagopal employs path information (e.g., Rajagopal, Fig. 2). The standing rejections do not require a combination of all of the specific details of Rajagopal with Heismann. For example, notice that each of the "routers" in Fig. 4 may also be characterized as "nodes" and that the entire end-to-end path from TMN 6 to TMN 8 may also be characterized as one path. Thus, this one path may comprise one optical path. Broadly speaking, Heismann's teachings and Rajagopal's teaching both apply to paths in a network. The broad scope of the teachings of Rajagopal applies to communication networks in general. Accordingly, these teachings would also be desirable in optical communication networks. Accordingly, this point is not persuasive.

Regarding "The Rajagopal system versus the claimed system", Applicant states:

"With respect to the Rajagopal reference, Applicant notes that there are at least two fundamental functional differences between the system of Rajagopal and the system of the present application.

The first difference is that Rajagopal teaches methods of forming alternate routes and does not suggest or contemplate identifying misdirected routes (paths). Rajagopal discloses a system for identifying alternate paths between a source node and a sink node while the present application discloses a system for detecting connectivity problems where a light path planned to traverse a specified sequence of nodes deviates from a planned trajectory. Rajagopal discloses a system for traffic management based on identifying available alternate routes from a source node to a sink node. Rajagopal states in the abstract: 'The traffic management nodes monitor and classify traffic passing through the connecting network. Current paths through the connecting network are identified and used to build detour paths through the connecting network using traffic management nodes as detour nodes.'

The second difference is that system of Rajagopal processes baseband signals while the claimed system processes low-frequency optical signatures that are easy to detect. A light path is uniquely defined by an optical signature which is detectable in the optical domain without resorting to costly optical-electrical-optical conversion. Applying the system of Rajagopal to the optical communication network of the present application would require demodulating an optical signal to detect the information signal.

Additionally, traffic management nodes (TMNs) coupled with a network nodes are required to monitor network traffic. In contrast, the claimed system does not require interconnecting the nodes of the Optical Communication Network to management nodes. As stated

in paragraph [0038] of the present application, 'An advantage of the method is that it does not require any NMS (Network Management Systems) interaction and can be invoked at any node on a light path through a CLI.'

Numerous other differences between the present system and the Rajagopal system may be identified; all stemming from their distinct functions and physical structures" (REMARKS/ARGUMENTS, p. 13-14)

Regarding the first difference, Examiner respectfully notes that "misdirected routes" are not in the claim language. Accordingly, this point is not persuasive.

Regarding the second difference, Examiner respectfully notes that the standing rejections do not rely solely on Rajagopal. Rather, the standing rejections incorporate the optical signal tracking of Heismann with the various network management procedures of Rajagopal. Thus, one would not apply the system of Rajagopal to Applicant's optical communication network. Accordingly, this point is not persuasive.

Regarding the "claimed system does not require interconnecting the nodes of the Optical Communication Network to management nodes", Examiner respectfully notes that this aspect of Applicant's system is not in the claim language. Accordingly, this point is not persuasive.

Regarding the argument concerning claim 1, Applicant presents a number of points:

Regarding a first point concerning claim 1, Applicant states:

"Applicant notes that 'Traceroute' used in Rajagopal is a program that records the route between two computers through the Internet, ICMP (Internet Control Message Protocol) messages report errors in the processing datagrams, and 'ping' is a basic Internet program that allows a user to verify that a particular IP address is available. Traceroute does not identify a misrouted light path" (REMARKS/ARGUMENTS, p. 15, 2nd paragraph).

Examiner respectfully notes that the standing rejections do not expressly rely on Traceroute, per se. Rather, they rely on the incorporation of the optical signal tracking teachings of Heismann with the broad procedure teachings of Rajagopal. Accordingly, this point is not persuasive.

Regarding a second point concerning claim 1, Applicant states:

"Applicant notes that the second procedure identifies the optical nodes planned to constitute a light path from a source node to a destination node. Block 212 of FIG. 2 in Rajagopal refers to a step of identifying one or more detour paths" (REMARKS/ARGUMENTS, p. 15, 4th paragraph).

Examiner respectfully notes that "detour paths" are also "planned" paths. Accordingly, this point is not persuasive.

Regarding a third point concerning claim 1, Applicant states:

"The third procedure disseminates enquiry message to determine which optical nodes have received a signature of a specific light path. Due to potential misrouting, an optical node receiving the signature may not be eligible to receive the signature. Such information facilitates taking corrective action. Block 502 of FIG. 5 in Rajagopal relates to a procedure of identifying current paths through the network for traffic sent among the Traffic Management Nodes (TMNs). Thus, the two procedures are distinctly different" (REMARKS/ARGUMENTS, p. 15, last paragraph).

Examiner respectfully notes that the identification of paths through the optical signature teachings of Heismann reads on identifying nodes of an optical signal path. That is, notice that each node in Fig. 1(a) of Heismann monitors the optical tone/signature of optical path(s). Accordingly, this point is not persuasive.

Regarding a fourth point concerning claim 1, Applicant states:

"Applicant notes that col. 7:36-39 in Rajagopal refers to a process of identifying a current path. This is not equivalent to identifying optical nodes that detect a specific signature" (REMARKS/ARGUMENTS, p. 16, 2nd paragraph).

Examiner respectfully notes that the identification of paths through the optical signature teachings of Heismann reads on identifying nodes of an optical signal path. That is, notice that each node in Fig. 1(a) of Heismann monitors the optical tone/signature of optical path(s). Accordingly, this point is not persuasive.

Regarding a fifth point concerning claim 1, Applicant states:

"Applicant notes that, unlike the system of Rajagopal, the claimed system does not require processing the baseband data transported by a light path, which requires optical-to-electrical conversion and sophisticated receivers, and does not require additional management nodes such as the Traffic Management Nodes in the Rajagopal system. Please see paragraph [0028] of the present application 'These procedures do not require any Network Management System (NMS) interaction. Trace (Light path Trace), Walk, Global Discovery and Local Discovery can be invoked from a Command Line Interface (CLI).'" (REMARKS/ARGUMENTS, p. 16, 4th paragraph).

Examiner respectfully notes that these features of the not requiring "processing the baseband data", not requiring o/e conversion, not requiring sophisticated receivers, and not requiring "additional management nodes" are not in the claim language. Accordingly, this point is not persuasive.

Regarding a sixth point concerning claim 1, Applicant states:

"Unlike baseband processing and incorporation of management nodes, the claimed system relies on optical taps and inexpensive decoders to detect optical signatures at intermediate nodes on the light path. Detection of the optical signature is accomplished without costly OEO (Optical-Electrical-Optical) conversion at intermediate nodes. The simplicity of the process of tracing and fault detection of light paths enables its incorporation as part of a conventional CLI-based system" (REMARKS/ARGUMENTS, p. 16, 5th paragraph).

Examiner respectfully notes that the teachings of Heismann also disclose "optical taps and inexpensive decoders to detect optical signatures at intermediate nodes on the light path" (e.g., Fig. 2(a) of Heismann). Accordingly, this point is not persuasive.

Regarding a seventh point concerning claim 1, Applicant states:

"Applicant notes that the referenced passage (col. 1:7-10) refers to systems and techniques relating to network traffic engineering such as multi-path analysis for managing machine communications in a network. The present application is not concerned with traffic engineering and need not be traffic-aware. Instead, it provides a method of identifying misdirected light paths, i.e., light paths which, due to installation error or equipment malfunction, stray away from their intended trajectories" (REMARKS/ARGUMENTS, p. 17, 1st paragraph).

Examiner respectfully notes that these features of "not concerned with traffic engineering and need not be traffic-aware" and "misdirected light paths" are not in the claims. Accordingly, this point is not persuasive.

Regarding an eighth point concerning claim 1, Applicant states:

"Applicant notes Rajagopal provides traffic management by selecting a route from among a plurality of alternate routes for directing traffic from a first node to a second node in a network comprising a plurality of nodes. Naturally, this traffic-routing process requires identifying current paths from the first node to the second node. Rajagopal is silent regarding identifying a path intended to connect the first node to the second node traversing designated intermediate nodes which deviates from its planned trajectory and either misses the second node or uses different intermediate nodes. The present application provides a method and system for detecting and monitoring a light path between a source node and a destination node in an Optical Communication Network (OCN) for the purpose of detecting connectivity problems" (REMARKS/ARGUMENTS, p. 17, last paragraph).

Examiner respectfully notes that these features of "identifying a path...which deviates from its planned trajectory and either missed the second node of uses different intermediate nodes" are not in the claim language. Accordingly, this point is not persuasive.

Regarding the argument concerning claim 2, Applicant states:

"Applicant notes that block 200 in Rajagopal relates to a process of discovering current network paths for all TMNs acting as both source and destination. Rajagopal operates at the IP level and does not consider an underlying optical domain" (REMARKS/ARGUMENTS, p. 18, 3rd paragraph).

Examiner respecfully notes that the standing rejections rely on the combination of teachings from Heisman and Rajagopal, not Rajagopal alone. Notice that Heismann does consider the optical domain (Heismann, optical network in Fig. 1(a)). Accordingly, this point is not persuasive.

Regarding the argument concerning claim 3, Applicant states:

"Applicant notes that the steps of claim 3 enable the process of monitoring a light path between a source optical node and a destination optical node to be invoked at any optical node designated to be on the light path using a Command Line Interface. Such capability has significant operational implications and may not be considered obvious given that a process of monitoring a path would normally be invoked at the source node of the path" (REMARKS/ARGUMENTS, p. 18, 5th paragraph).

Examiner respectfully notes that this "monitoring" is not in the claim language and that only a "construction of lists" is in the claim language. Accordingly, this point is not persuasive.

Regarding the argument concerning claim 7, Applicant states:

"Regarding claim 7, the Examiner states that Heismann in view of the APA and Rajagopal discloses a step of constructing a reference list of optical nodes comprising the second sequence of optical nodes. The Examiner refers to block 212 which identifies detour paths. The second sequence of optical nodes recited in claim 1 includes nodes provisioned to process a specific optical signature. The system of the present application detects misdirected paths and the existence, or otherwise, of detours is irrelevant" (REMARKS/ARGUMENTS, p. 19, 1st paragraph).

Examiner respectfully notes that "misdirected paths" are not in the claim language. Accordingly, this point is not persuasive.

Regarding the argument concerning claim 8, Applicant presents a number of points:

Regarding a first point concerning claim 8, Applicant states:

"Applicant respectfully submits that the nodes of network 420 are routers handling data packets not wavelength channels. Adjacent routers may be connected by light paths, with several independent light paths connecting TMN 6 to TMN 3, and several independent light paths connecting TMN 3 to TMN 8. None of the optical nodes along any light path is illustrated or discussed in the Rajagopal reference" (REMARKS/ARGUMENTS, p. 19, last paragraph).

Examiner respectfully notes that the standing rejections do not rely on Rajagopal as the base reference. That is, the base reference is Heismann, which does include wavelength channels and optical nodes (Heismann, Fig. 1(a)). Accordingly, this point is not persuasive.

Regarding a second point concerning claim 8, Applicant states:

"It may be argued however, that network 420 may employ wavelength-channel switches instead of fine-granularity routers. However, in such case, the Traffic Management Nodes of Rajagopal would have no useful role to play" (REMARKS/ARGUMENTS, p. 20, 2nd paragraph).

Examiner respectfully notes that the traffic management teachings of Rajagopal, whether or not they are not embodied as Traffic Management Nodes, per se, would still provide useful network management procedures for an optical communication network, as shown in Heismann (Heismann, Fig. 1(a)). Accordingly, this point is not persuasive.

Regarding a third point concerning claim 8, Applicant states:

"Applicant further notes that even if such equivalence can be established, then the start node, TMN 3, ought to be able to invoke a process of detecting an optical signature at the intermediate nodes M, J, K, K, O which belong to the public network 420. Thus, the routers E, F, ... N, O of the public network 420 have to be equipped with optical-signal detectors and the Traffic Management Nodes TMN 1 to TMN 8 would be replaced with simpler Command Line Interfaces having means of executing the method of the present invention.

Thus, given that the network considered in Rajagopal does not lend itself to the application of optical signatures to track a path from a source node to a destination node, it is respectfully requested that the rejection of claim 8 be withdrawn" (REMARKS/ARGUMENTS, p. 20, 3rd and 4th paragraphs).

Examiner respectfully notes that the standing rejections do not rely on Rajagopal as the base reference. That is, the base reference is Heismann, which does include the "application of optical signatures to track a path from a source node to a destination node" (Heismann, Fig. 1(a)). Accordingly, this point is not persuasive.

Regarding the argument concerning claim 9, Applicant states:

"Applicant notes that the new path mentioned by the Examiner traverses a number of routers (packet switches) and DOES NOT CONSTITUTE a light path. Tracking a path using optical signatures applies to a network switching wavelength channels and is not applicable to the fine-granularity packet-switching network to which the Rajagopal invention is directed. For at least this reason, it is respectfully requested that the rejection of claim 9 be withdrawn" (REMARKS/ARGUMENTS, p. 20, last full paragraph).

Examiner respectfully notes that the standing rejections do not rely on Rajagopal as the base reference. That is, the base reference is Heismann, which does include light paths and tracking a path using an optical signature (Heismann, Fig. 1(a)). Accordingly, this point is not persuasive.

Regarding the argument concerning claim 10, Applicant states:

"As discussed above, regarding claim 9, the system of the present application applies to a wavelength-channel switching network (generally known as optical transport networks). The nodes of the packet-switching network in Rajagopal do not process optical signatures" (REMARKS/ARGUMENTS, p. 21, 1st full paragraph).

Examiner respectfully notes that that the standing rejections do not rely on Rajagopal as the base reference. That is, the base reference is Heismann, which does include optical networks and optical signatures (Heismann, Fig. 1(a)). Accordingly, this point is not persuasive.

Regarding the argument concerning claims 4 and 5, Applicant presents a number of points:

Regarding a first point concerning claims 4 and 5, Applicant states:

"Applicant respectfully submits that claims 4 and 5 are not directed to pre-provisioning light paths and do not claim using unique

signatures to pre-provision light paths. Rather, they claim a step of identifying all optical nodes which are already pre-provisioned to be on a light path and which have detected and processed a specific optical signature" (REMARKS/ARGUMENTS, p. 22, 4th paragraph).

Examiner respectfully reasons that, if there is pre-provisioning of light paths as in Sengupta (Sengupta, e.g., Fig. 3), then there would be identification of those paths and nodes by the procedure of Rajagopal (Rajagopal, e.g., col. 4, l. 29-43) through the optical signature of Heismann (Heismann, p. 3.48, 1st paragraph). Accordingly, this point is not persuasive.

Regarding a second point concerning claims 4 and 5, Applicant states:

"Applicant also submits that Sengupta uses well known MPLS-based signaling protocols to establish light paths through a network. These techniques require processing baseband signals and need not rely on optical signatures" (REMARKS/ARGUMENTS, p. 22, 5th paragraph).

Examiner respectfully notes that the standing rejections do not rely on every specific detail of Sengupta, to the level of detail of processing baseband signals. Although Sengupta provides detailed examples, such as MPLS-based signaling protocols, the standing rejections do not rely on this level of detail. Rather, the standing rejections note the broader aspect of these teachings of pre-provisioning lightpaths and nodes on these lightpaths through a signature that uniquely identifies a lightpath. The standing rejections note that this broader aspect of Sengupta would provide the benefit of preparing nodes for the establishment of a lightpath through them. This basic concept of preparing a node would be desirable in an optical network, regardless of the detailed examples in which they may be embodied in the prior art. Accordingly, this point is not persuasive.

Summarily, Applicant's arguments are not persuasive. Accordingly, Examiner respectfully maintains the standing rejections.